Appendix 4

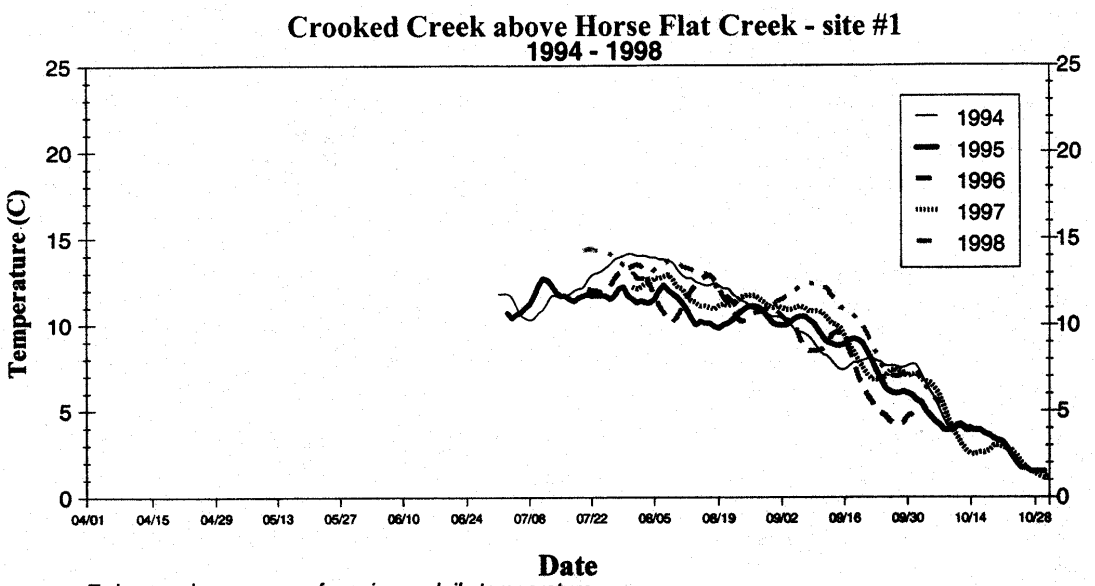
Beneficial Use Assessments

Crooked Creek

Crooked Creek

The first site is located in the headwaters of the watershed above the tributary of Horse Flat Creek (site 1). The monitoring site is located approximately 1.5 miles downstream from the origin of Crooked Creek at Dixie Summit. The next downstream temperature monitoring site is located approximately .5 miles above Big Creek and the wilderness boundary (site 2). This site is below the town of Dixie and a large meadow. The third site is located within wilderness and approximately 100 meters below a major wilderness tributary of Lake Creek (site 3). The fourth site is located .25 miles upstream from the mouth (site 4).

Graph 11

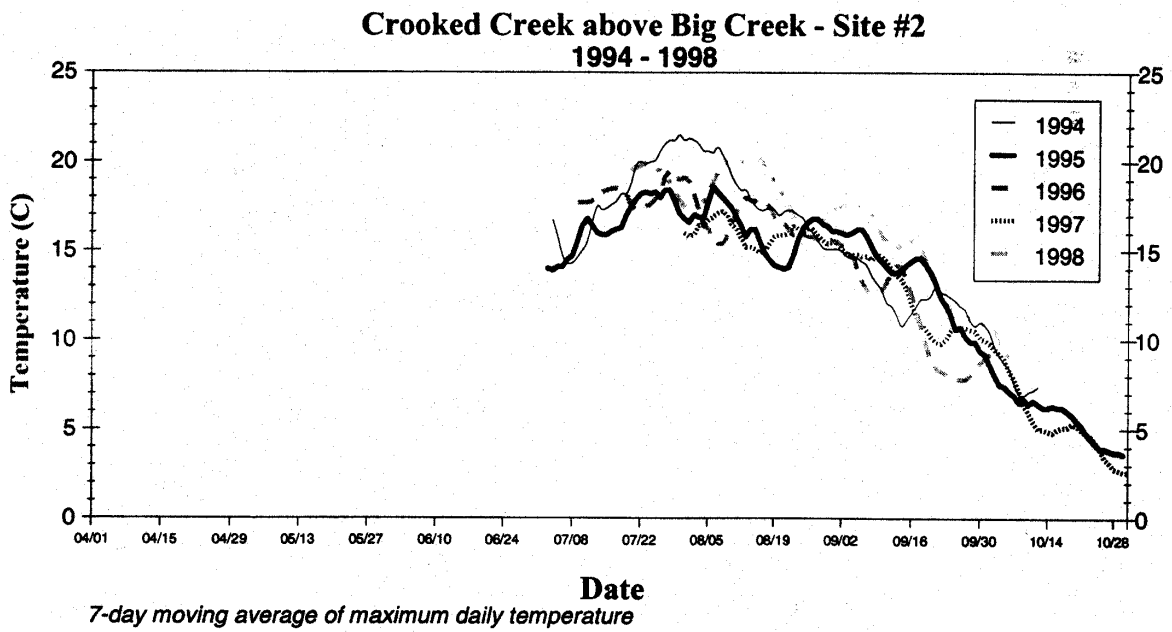


7-day moving average of maximum daily temperature

Table 17 Crooked Creek above Horse Flat Creek (Site 1)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Maximum Temp. (C)
1994	6/25-10/17	20	0	14.5
1995	6/27-10/30	2	0	13.1
1996	7/15-10/30	11	0	13.9
1997	7/25-11/2	4	0	13.6
1998	7/14-10/07	24	0	14.8

Graph 12

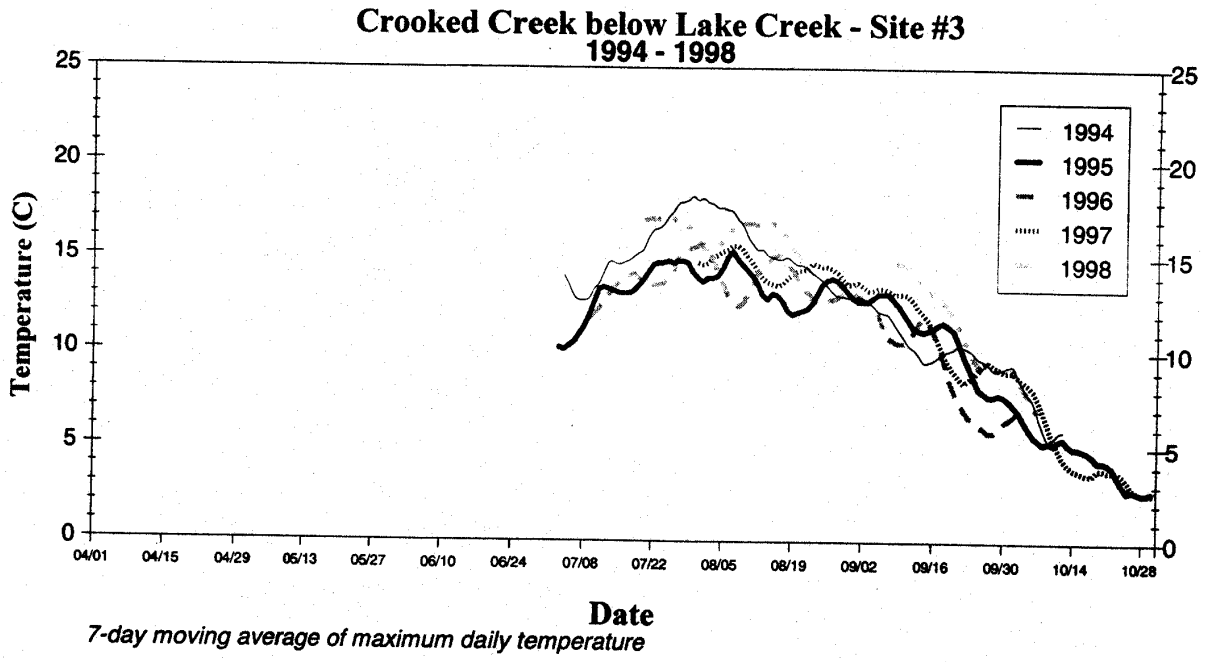


7-day moving average of maximum daily temperature

Table 18 Crooked Creek above Big Creek (Site 2)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Days > 20 C	Maximum Temp. (C)
1994	6/28-10/12	74	50	16	22.9
1995	6/27-10/30	76	47	0	19.9
1996	7/3-10/30	70	46	1	20.2
1997	7/25-11/2	48	20	0	18.3
1998	7/14-10/07	66	56	12	20.6

Graph 13

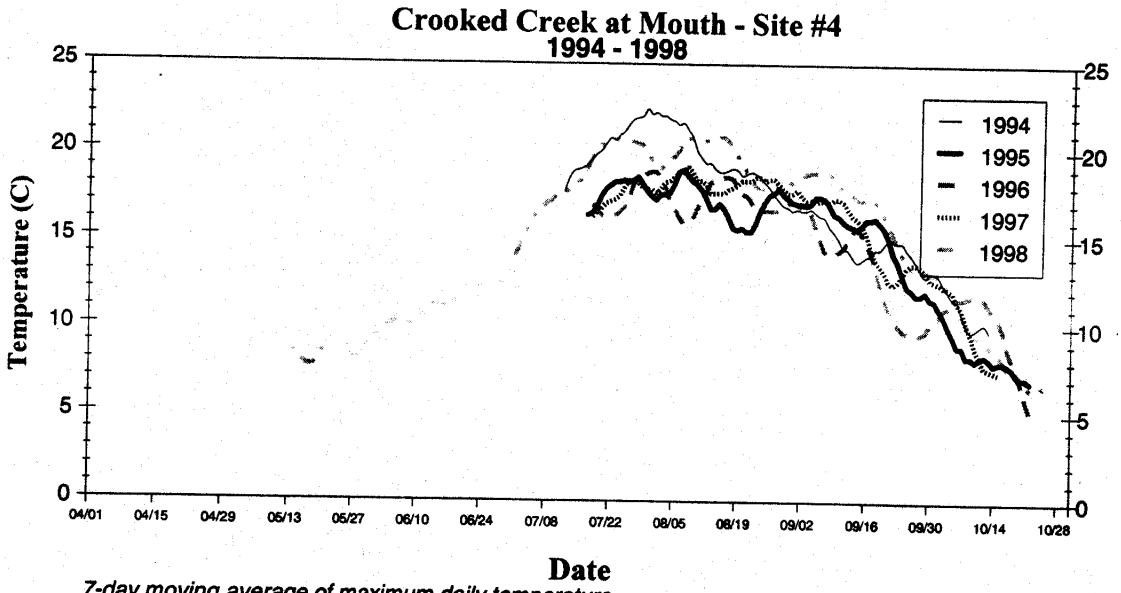


7-day moving average of maximum daily temperature

Table 19 Crooked Creek below Lake Creek (Site 3)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Maximum Temp. (C)
1994	6/28-10/12	60	21	18.6
1995	6/27-10/30	38	3	16.1
1996	7/3-10/30	40	1	16.1
1997	7/25-11/2	47	3	16.2
1998	7/14-10/07	61	27	17.7

Graph 14



7-day moving average of maximum daily temperature

Table 20 Crooked Creek at the mouth (site 4)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Days > 20 C	Maximum Temp. (C)
1994	7/6-10/13	84	59	24	22.9
1995	7/11-10/22	70	55	2	20.2
1996	7/12-10/22	65	46	0	19.6
1997	7/12-10/15	72	59	0	19.9
1998	4/29-10/25	94	77	25	21.7

5-2-2000

Personal communications: J.P. Mays, USFS, Nez Perce NF
Elk City/Red River Ranger District fish biologist

Crooked Creek: info within the last 5 years

Anadramous barrier 800 meters below mouth of Big Creek

Above barrier:	rbt with fish and game stocking maybe within 2 years ago Lots of rbt's Spawning and rearing of rbt in this area
below barrier	steel head, bulltrout, chinook, cutthroat All spawning and rearing
Lake Creek	steel head, bulltrout, cutthroat All spawning and rearing

Big Creek data is from 1990 and 1992 thru 1998

Rbt and rbt x cutt crosses (hybrids)
spawning and early rearing

Rhett Creek data from within the last 5 years

steel head, bull trout, cutthroat, juvenile chinook

spawning and rearing of steel head and cutthroat
rearing bulltrout and chinook

Jersey Creek info within last 5 years

cutthroat and steel head juveniles

spawning and rearing of cutthroat
rearing of steel head

Little Mallard: total fish migration barrier just above mouth. Above barrier the stream is fish less.

Below barrier, rearing steel head and incidental other salmonids

Big Creek

5-2-2000

Personal communications: J.P. Mays, USFS, Nez Perce NF
Elk City/Red River Ranger District fish biologist

Crooked Creek: info within the last 5 years

Anadramous barrier 800 meters below mouth of Big Creek

Above barrier:	rbt with fish and game stocking maybe within 2 years ago Lots of rbt's Spawning and rearing of rbt in this area
below barrier	steel head, bulltrout, chinook, cutthroat All spawning and rearing
Lake Creek	steel head, bulltrout, cutthroat All spawning and rearing

Big Creek data is from 1990 and 1992 thru 1998

Rbt and rbt x cutt crosses (hybrids)
spawning and early rearing

Rhett Creek data from within the last 5 years

steel head, bull trout, cutthroat, juvenile chinook

spawning and rearing of steel head and cutthroat
rearing bulltrout and chinook

Jersey Creek info within last 5 years

cutthroat and steel head juveniles

spawning and rearing of cutthroat
rearing of steel head

Little Mallard: total fish migration barrier just above mouth. Above barrier the stream is fish less.

Below barrier, rearing steel head and incidental other salmonids

Rhett Creek

Upper Rhett Creek
Electrofishing Results 1993

#17060207-03-15

Reach	Location Description	Legal Location	Date	Time	Rch Grad. (%)	Water Temp. (°C)	Channel Type	Habitat Unit no.	Habitat Sub-Type	Length (m)	Width (m)	Mean Depth (cm)	Max. Depth (cm)	Dominant Substrate (ocular)	Pebble Counts in Habitat Units	D-50	Dominant Substrate	Species	Length (mm)	Weight (g)	Species	Length (mm)	Weight (g)	Comments Reach Specific
	Reach Data							Habitat Data							Pebble Counts			Electrofishing Results						
1	2 miles upstrm. from wilderness boundary	T25N R8E SEC14 NE SE	7/29/93	1030	4	9	B3	G-1	P	4	3	25	50	CG	G	f.gravel	s.cobble	cutthroat	120		cutthroat	113		scale malfunction, no weights for fish
								G-2	R	11	2.8	20	35	CG	G	f.gravel	m.gravel	cutthroat	123		cutthroat	109		
								G-3	P	12.2	2.8	25	50	SC	R-1	s.cobble	l.cobble	cutthroat	110		cutthroat	114		
								R-1	R	81	2.9	20	35	SC				cutthroat	158		cutthroat	91		
																		cutthroat	129		cutthroat	125		
																		cutthroat	126		cutthroat	78		
																		cutthroat	173		cutthroat	198		
																		cutthroat	128		cutthroat	199		
2	2 miles upstrm. from wilderness boundary	T25N R8E SEC11 SE SE	7/28/93	1330	5	9	B4S	P-1	P	4.9	3.5	45	55	SA	P	m.gravel	s.sand	cutthroat	110	18	cutthroat	197	88	
								R-1	R	31.5	3.4	20	35	R	R	s.cobble	l.cobble	cutthroat	169	50	cutthroat	119	19	
								P-2	P	4.7	4.8	45	65	SA				cutthroat	139	30	cutthroat	129	18	
								R-2	R	35	3.2	25	40	R				cutthroat	117	18				
								R-3	CA	30	4.1	25	45	R										
3	East of Dillinger Mine	T25N R8E SEC02 NW SE	7/28/93	1200	4.0	9.5	B3/4	G-1	R	25	6.7	20	37	SA	NONE			cutthroat	116	19				ocular estimate for reach: 70% cobble, 20% gravel, and 10% sand
								G-2	P	14	0.8	15	27	SA				cutthroat	118	19				
								P-1	D	3	1.25	17	25	SA										
								G-3	R	29	0.9	10	30											
4	Comstock Cr., .75 mi. upstrm. from Rhett Cr.	T25N R8E SEC14 NW SE	7/29/93		4	9.5	A4	R-1		22.9	2.0	15	25	G	P	c.gravel	vc.gravel	cutthroat	176	70				
								P-1		18.8	3	15	40	G	R	c.gravel	vc.gravel	cutthroat	171	40				
								R-2	R	54.1	1.8	15	40	G										
5	Comstock Cr., 1.5 mi. upstrm. from Rhett Cr.	T25N R8E SEC15 NE NE	7/29/93	1400	4.5	12	A4	R-1	R	23.7	1.3	10	25	CG	P-1	m.gravel	vc.gravel	cutthroat	84	7	cutthroat	82	6	
								R-2	CA	20.2	1.5	15	30	SG	R	c.gravel	s.gravel	cutthroat	79	5	cutthroat	77	5	
								R-3	R	6.4	1.7	10	20	CG				cutthroat	92	10	cutthroat	79	6	
								P-1	P	3.3	2.3	25	40	SG				cutthroat	77	5				
								R-4	R	29.4	1.7	15	35	SG										
								P-2	S	6.6	2	20	30	SG										
								R-5		31	1.3	15	30	SG										

Lots of CTT
plus <100 mm
= juvenile

Fish Collection Data Form (Reconnaissance)

reach length: total for all 486.5M | water temp(°C): _____ | method: ☐ visual (viewbox), ☒ snorkel, ☒ electrofish (☐AC ☐DC)

conductivity (µS/cm): _____ | water clarity: turbid, clear, stained

species code*	species	est. length (cm)	voucher (y/n)	total count	identification conf.**	anomalies ***	# of juveniles
	Trout	<7.5	N	4			
	Rb/ sthd	7.5-12.7	N	20			
	Rb/ sthd	12.7-20.0	N	8			
	Cutthroat	7.5-30.5	N	44			

Fish Collection Data Form Adapted from DEQ Protocol #6. * see 1995 training manual for updated codes

** Fish confidence Codes: A (99.9%) - Must have fisheries taxonomist on collection crew or entire sample preserved and taxa work done by fisheries taxonomist (no visual estimate), B (99%) - Must have an experienced fisheries biologist on collection crew, or only part of sample preserved, C (90%) - Crew made up of individuals familiar with species, D (<90%) - No confidence or confidence unknown. *** Anomalies include parasites, deformities, frayed fins, etc.

1997 Beneficial Use Reconnaissance Project Field Forms, Idaho Division of Environmental Quality

Division of Environmental Quality Fish Voucher Data Sheet

Lab Name: **EcoAnalysts, Inc.** Date into Lab: **8/25/97** Taxonomist: **Dr. Richard Wallace** RW

Stream name: **Rhett Cr** Site ID No: **97NCIROA13** Date: **12July1997**

species code	species	total length (mm)	total count	ID confid	anomalies	# of juveniles
11	Oncorhynchus clarki	104, 114, 150 2 size classes	3	A	—	0

IDHW - Division of Environmental Quality
FISH DATA SHEET

Field Information - Shaded areas must be completed before submittal of sample

DEQ Project Code					
Name of Water Body: Rhett Creek				Site ID No.	
Location Description (Permanent Landmarks)					
Station and/or Subsample No.	County: Idaho	Township: 24N	Range: R8E	Section	Quarter
Elevation (ft or m)	Collector(s) First (or initial) & Last Name(s): USFS			Sample Method: Electro + Snorkel	
Collection Date (YY/MM/DD): 93/7/28 + 93/8/03					

Receiving Lab Information

Lab Name	Date into Lab	Sent Out	Sorted	Lab's Sample Number

Identifying Lab Information

Lab Name	Date into Lab	Date Reported	IDHW Central Lab Log No.
Taxonomist (First Initial & Last Name)		Remarks:	

5 Reaches were sampled this is a compilation of the DATA.
Reach #1: 2 miles up stream from Wilderness Boundary T25N R8E SEC14 NESE
Reach #2: 3 mi upstream from Wilderness Boun. T25N R8E Sec. 11 SESE
Reach #3: East of Dillinger Mine T25N R8E Sec 02 SWSE.
Upper Rhett Cr. (above)
Lower Rhett Cr.
Reach #1: 1/3 mile from Salmon River T25N R9E Sec 30 SWSW
Reach #2: 1 mile upstream from Wilderness Boundary T25N R8E Sec 29 NWNE

1997 Beneficial Use Reconnaissance Project Field Form, Idaho Division of Environmental Quality

DEQ Fish Collection Record (Pass 1 of 1, effort 710 seconds)

Total Length (mm)	Taxa Code/ID Confidence					
10-19	Cutthroat					
20-29						
30-39						
40-49						
50-59						
60-69						
70-79						
80-89						
90-99						
100-109 Vouchered	1					
110-119						
120-129 Vouchered	1					
130-139						
140-149						
150-159 Vouchered	1					
160-169						
170-179						
180-189						
190-199						
200-209						
210-219						
220-229						
230-239						
240-249						
250-259						
260-269						
270-279						
280-289						
290-299						
≥300 mm						

97NCIROA13

Stream Name: RHETT Creek Site ID Nº: Date: 961071 12

Lower Rhett Creek
Electrofishing Results 1993

#17060207-03-15

Reach	Location Description	Reach Data: Legal Location	Date	Time	Rch Grad. (%)	Water Temp. (°C)	Channel Type
1	Bird of a side from Salmon R.	T59N R6E SEC 30 SW SW	8/3/93	900	15	9	
2	1 mile upstrm. from wilderness boundary	T59N R6E SEC 24 NW NE	7/27/93		4	11	

Habitat Unit no.	Habitat Type	Length (m)	Width (m)	Mean Depth (cm)	Max. Depth (cm)	Dominant Substrate (scalar)
R-1	CA	14.7	4.5	35	65	R
R-2	RI	9.4	3	50	70	R
R-3	CA	61	4	40	80	R
S-1	R	13.3	2.3	15	35	R
P-1	PID	7.9	8.5	50	65	R
R-1	RI	17.2	3.4	15	40	LB
P-1	P	6.5	4	40	60	LR
R-2	RI	15.9	3.4	25	50	LR
R-3	RA	4.6	2.3	20	35	BO
S-1	G	13.9		25	50	SR
S-2	R	12.6	3.3	15	30	LB
G-2	P	14.7	4.7	35	70	SB
P-2	D	3	3	40	80	LR
P-3	P	9.5	3.9	40	75	BO
R-5	RI	7.5	2.4	15	45	LR

Pebble Counts: Habitat Units with Pebble Counts	D-50	Dominant Substrate
P-1	s.cobble	s.cobble
R	l.cobble	l.cobble
P	s.cobble	l.cobble
R	s.cobble	l.cobble

Electrofishing Results: Species	Length (mm)	Weight (g)
cutthroat	88	5
cutthroat	73	3
cutthroat	76	4
cutthroat	105	41
cutthroat	158	39
cutthroat	129	18
cutthroat	167	46
cutthroat	156	33
cutthroat	138	18
cutthroat	196	72
cutthroat	190	61
cutthroat	128	16

Sorted Data: Age (yrs)	Species and Size (mm)	Unit 1 #	Unit 1 #	Unit 1 #	Unit 1 #	Total #
0+	trout<75					3
1+	Rb/Bltrd 75-127					20
2+	Rb/Bltrd 127-200					8
Res	Rainbow >200					
0+	Chinook <127					
1+	Chinook >127					
	Cutthroat 76-305					7
	Cutthroat >305					
	Bulltrout (all sizes)					
	Brooktrout "					
	Whitefish "					
	other					

Comments: Reach Specific

CTT from
86 mm → 128 mm
1993

5-2-2000

Personal communications: J.P. Mays, USFS, Nez Perce NF
Elk City/Red River Ranger District fish biologist

Crooked Creek: info within the last 5 years

Anadramous barrier 800 meters below mouth of Big Creek

Above barrier:	rbt with fish and game stocking maybe within 2 years ago Lots of rbt's Spawning and rearing of rbt in this area
below barrier	steel head, bulltrout, chinook, cutthroat All spawning and rearing
Lake Creek	steel head, bulltrout, cutthroat All spawning and rearing

Big Creek data is from 1990 and 1992 thru 1998

Rbt and rbt x cutt crosses (hybrids)
spawning and early rearing

Rhett Creek data from within the last 5 years

steel head, bull trout, cutthroat, juvenile chinook

spawning and rearing of steel head and cutthroat
rearing bulltrout and chinook

Jersey Creek info within last 5 years

cutthroat and steel head juveniles

spawning and rearing of cutthroat
rearing of steel head

Little Mallard: total fish migration barrier just above mouth. Above barrier the stream is fish less.

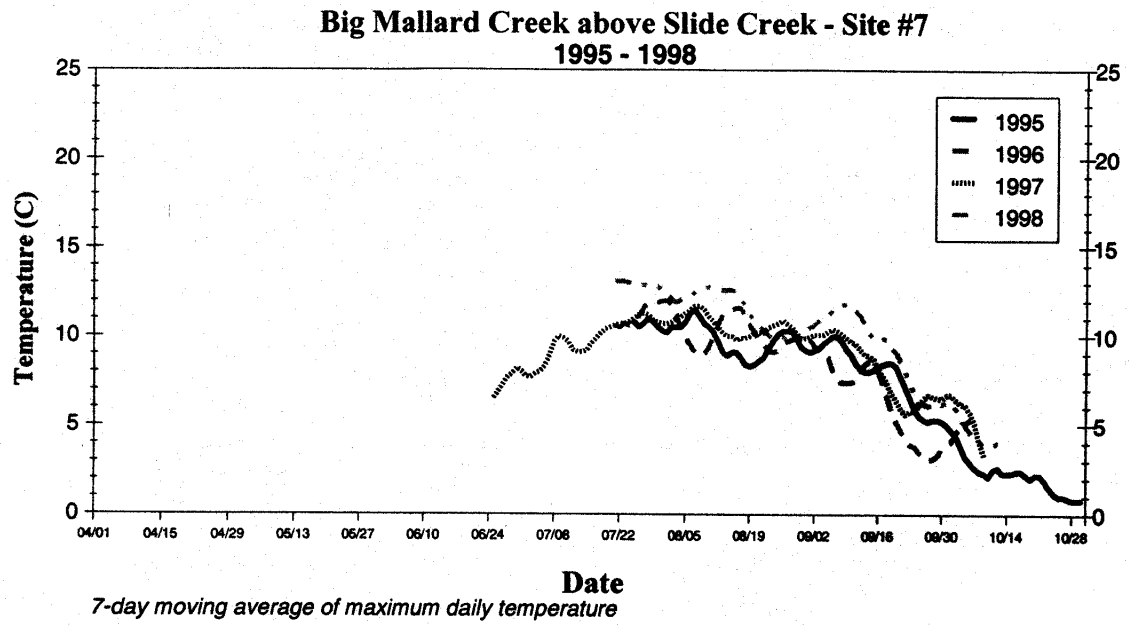
Below barrier, rearing steel head and incidental other salmonids

Big Mallard Creek

Big Mallard Creek

Three temperature monitoring sites were located in Big Mallard Creek in 1998. Two thermographs were located upstream of accessible habitat. One was located in the uppermost part of the watershed above Slide Creek, this site was not monitored in 1994 (site 7). The second site was located upstream from the confluence with Jack Creek (site 8). The third site is located approximately 400 meters from the mouth within critical habitat (site 9). The lower 1,100 meters upstream from the mouth are accessible for spawning and rearing chinook.

Graph 17

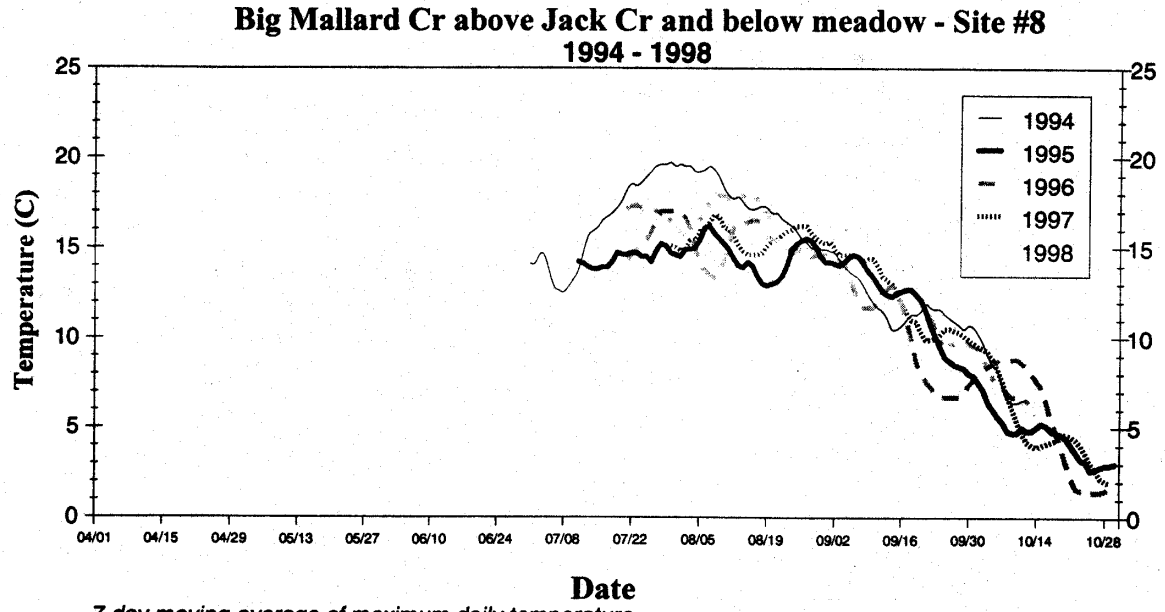


7-day moving average of maximum daily temperature

Table 23 Big Mallard Creek above Slide Creek (Site 7)

Year	Deployment Dates	Days > 13 C	Maximum Temp. (C)
1995	7/19-10/30	0	12.5
1996	7/15-10/6	0	12.9
1997	6/19-10/9	0	12.3
1998	7/18-10/14	7	13.7

Graph 18

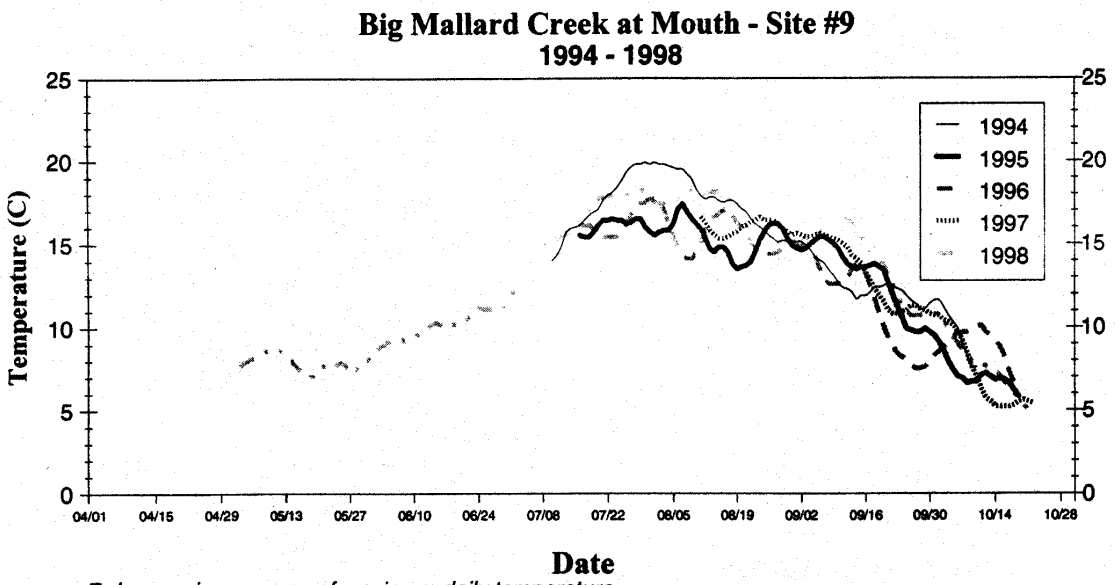


7-day moving average of maximum daily temperature

Table 24 Big Mallard Creek above Jack Creek (Site 8)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Maximum Temp. (C)
1994	6/25-10/12	67	39	20.6
1995	7/5-10/30	52	12	17.3
1996	7/15-11/15	49	19	18.3
1997	7/24-10/29	50	19	18.0
1998	7/15-10/14	65	35	18.8

Graph 19



7-day moving average of maximum daily temperature

Table 25 Big Mallard Creek at the Mouth (Site 9)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Days > 20 C	Maximum Temp. (C)
1994	7/4-10/10	65	40	7	20.4
1995	7/10-10/19	68	25	0	18.6
1996	7/10-10/19	59	25	0	18.3
1997*	8/5-10/22	40	17	0	18.5
1998	4/27-10/21	81	42	0	18.8

*The original deployment date in 1997 for this site was on July 9th, but the thermograph subsequently released from site and was later put back into the creek in August.

Jersey Creek

IDHW - Division of Environmental Quality
FISH DATA SHEET

Field Information - Shaded areas must be completed before submittal of sample

DEQ Project Code					
Name of Water Body: Jersey Creek				Site ID No.	
Location Description (Permanent Landmarks): First major fork in Jersey Cr.					
Station and/or Subsample No.	County: Idaho	Township: 24N	Range: 8E	Section	Quarter
Elevation (ft or m)	Collector(s) First (or initial) & Last Name(s): USFS			Sample Method: Electro	
Collection Date (YY/MM/DD): 93/07/27					

Receiving Lab Information

Lab Name	Date into Lab	Sent Out	Sorted	Lab's Sample Number

Identifying Lab Information

Lab Name	Date into Lab	Date Reported	IDHW Central Lab Log No.

Taxonomist (First Initial & Last Name)	Remarks:

The fish Data compiled from USFS survey containing 9 reaches at various locations & Dates
Reach #1 @ mouth of Jersey Cr. at Salmon R. T24N R8E Sec 15 NWSW 7/29/93.
Reach #2: 1 mile from mouth of Salmon R. T24NR8E Sec 16 NE 7/25/93
Reach #3: first major fork in Jersey Cr. T24NR8E Sec 07 NWNE 7/29
Reach #3a: ~400m downstream from fk T24NR8E Sec 07 NWNE 7/29
Reach #4: Below Fork of Jersey Cr. T25NR8E Sec 30 SESW 8/3/93
Reach #5: North Fork of Jersey Cr. T25NR8E Sec 30 SESW 8/3/93
" #6: Below 3rd Tr. b T25NR8E Sec 30 NWSW 8/4/93
" #7: Tributary below bridge T25NR7E Sec 25 NENE 8/4/93
#8: Creek #4 at second trib T25NR7E Sec NENE 8/4/93
#9: first creek 4KM T25N R8E Sec 19 SESW

ersey Creek #17060207-02-22
lectrofishing Results 1993

Reach	Location Description	Reach Data: Legal Location	Date	Time	Rch Grad. (%)	Water Temp. (°C)	Channel Type	Habitat Data: Habitat Unit no.	Habitat Sub-Type	Length (m)	Width (m)	Mean Depth (cm)	Max. Depth (cm)	Dominant Substrate (ocular)	Pebble Counts: Habitat Units with Pebble Counts	D-50	Dominant Substrate	Electrofishing Results: Species	Length (mm)	Weight (g)	Species	Length (mm)	Weight (g)	Comments: Reach Specific
3	first major fork in Jersey Cr.	T24N R8E SEC07 NWNE	7/27/93		15		A2/3	G-1	R	7.9	2.7	25	50	BO	R	s.boulder	s.boulder	rainbow	145	41	rainbow	148	33	tributary on left bank enters unit R-2
								R-1	RA	30.8	2.5	25	45	BO	G-2	s.cobble	s.cobble	rainbow	132	24	rainbow	126	21	
								PW-1		8.3	5.2	25	25	BO				rainbow	138	28	rainbow	100	11	
								R-2	RA	42.4	6.1	25	45	LR				rainbow	75	4	rainbow	107	12	
								R-3	CA	28.2	4.54	25	80	BO				rainbow	101	11	rainbow	120	17	
								G-2	P	6.3	3.9	25	35	SR				rainbow	102	10	rainbow	136	25	
																		rainbow	146	35	rainbow	91	7	
																		rainbow	104	43	rainbow	64	2	
																		rainbow	76	3				
3a	~400 m dwnstrm. from fork	T24N R8E SEC07 NWNE	7/27/93		13													rainbow	117	18	rainbow	74	4	first shocking reach to see what species are present, no habitat typing done
																		rainbow	131	27	rainbow	165	36	
																		rainbow	126	20	rainbow	127	14	
																		rainbow	151	39	rainbow	72	4	
																		rainbow	102	11	rainbow	72	4	
																		rainbow	145	29	rainbow	98	2	
																		rainbow	117	17	rainbow	66	3.5	
																		rainbow	137	26	rainbow	73	5	
																		rainbow	88	3	rainbow	60	4	
																		rainbow	68	3	rainbow	71	4	
6	below third tributary	T25N R8E SEC30 NWSW	8/4/93		3.7			G-1		68	1.1	15	40	CG/SR	G-1	s.gravel	c.gravel	rainbow	113	16	rainbow	88	8	
																		rainbow	78	5	rainbow	66	7.5	
																		rainbow	104	11	rainbow	62	3	
																		rainbow	149	32	rainbow	91	6.5	
																		rainbow	57	3	rainbow	60	2	
																		rainbow	57	3	rainbow	60	2.5	
																		rainbow	44	2	rainbow	58	2	
																		rainbow	141	32	rainbow	40	1	
7	tributary below bridge	T25N R7E SEC25 NENE	8/4/93		4.2		B4			~100	1.1	10	25		R	m.gravel	c.gravel	rainbow	120					habitat types not broken out, avg. width and depths were taken for the ~100 m stretch that was shocked, only the one rainbow was found
8	cross 4x4 at second tributary	T25N R7E SEC25 NENE	8/4/93		3.8					~150	0.75	10	35		G	m.gravel	m.gravel	rainbow	96	11.5				stream was too small to break into habitat types, avg. width and depth are given for the ~150 m that was shocked
																		rainbow	119	18				
9	first cross of 4x4	T25N R8E SEC19 SESW	8/4/93							~80	1.1	8	15		G	s.gravel	vc.gravel	no fish						80 m shocked, no fish, no habitat typing

RBT - 3 age class
including YOY

1997 Beneficial Use Reconnaissance Project Field Forms, Idaho Division of Environmental Quality

Division of Environmental Quality Fish Voucher Data Sheet

Lab Name: **EcoAnalysts, Inc.** Date into Lab: **8/25/97** Taxonomist: **Dr. Richard Wallace** RW

Stream name: **Jersey Cr** Site ID No: **97NCIROC14** Date: **13July1997**

species code	species	total length (mm)	total count	ID confid.	anomalies	# of juveniles
10	Oncorhynchus mykiss	84, 101, 143	3	A	-	0
		2 Age classes				

Fish Collection Data Form (Reconnaissance)

reach length : total of all 887m | water temp(°C): _____ | method: ☐ visual (viewbox), ☒ snorkel, ☒ electrofish (☐AC ☐DC)

conductivity (µS/cm): _____ | water clarity: turbid, clear, stained

species code*	species	est. length (cm)	voucher (y/n)	total count	identification conf.**	anomalies ***	# of juveniles
	Trout <75 mm	<75	N	36			
	RB/steelhead	7.5-12.7	N	53			
	RB/steelhead	12.7-20.0	N	65			
	RB/steelhead	>20.0	N	1			

Fish Collection Data Form Adapted from DEQ Protocol #6. * see 1995 training manual for updated codes

** Fish confidence Codes: A (99.9%) - Must have fisheries taxonomist on collection crew or entire sample preserved and taxa work done by fisheries taxonomist (no visual estimate), B (99%) - Must have an experienced fisheries biologist on collection crew, or only part of sample preserved, C (90%) - Crew made up of individuals familiar with species, D (<90%) - No confidence or confidence unknown. *** Anomalies include parasites, deformities, frayed fins, etc.

Stream Name: Jersey Creek Site ID №: _____ Date: __/__/__ page 5

Jersey Creek #17060207-02-22

Electrofishing/Snorkeling Results 1993

Reach	Location Description	Legal Location	Date	Time	Rch Grad. (%)	Water Temp. (°C)	Channel Type	Habitat Unit no.	Habitat Type	Length (m)	Width (m)	Mean Depth (cm)	Max. Depth (cm)	Dominant Substrate (ocular)	Habitat Units with Pebble Counts	D-50	Dominant Substrate	Age (yrs)	Species and Size (mm)	Unit #	Unit #	Unit #	Unit #	Unit #	Unit #	Total #	Comments Reach Specific
1	mouth of Jersey Cr.at Salmon R.	T24N R8E SEC15 NWSW	7/29/93		16.1		A2	R-1	CA	17.9	8.1	20	35	LR	NONE					N/A	R-1	R-2	R-3	R-4	R-5		first snorkel unit. # N/A, is the small area
								R-2	CA	19.5	3.2	20	30	BO				0+	trout<75	2			1			3	where Jersey Cr. empties into Salmon R.
								R-3	RA	23.1	3.8	25	65	BO				1+	Rb/Stlhd 75-127	4	1	2	5	1		13	
								R-4	CA	8	9.3	15	40	BO				2+	Rb/Stlhd 127-200	3	1		7		3	14	
								R-5	RA	27.6	3.5	20	50	BO				Res	Rainbow >200								
																		0+	Chinook <127								
																		1+	Chinook >127								
																			Cutthroat 75-305								
																			Cutthroat >305								
																			Bullrout (all sizes)								
																			Brooktrout "								
																			Whitefish "								
																			other								
2	1 mile from mouth at Salmon R.	T24N R8E SEC16 NESE	7/29/93		14.7		A2	R-1	CA	30.5	5.4	25	38	LR	NONE					R-1	R-2	P-1	R-3				
								R-2	RA	34.7	4.2	25	45	LR				0+	trout<75								
								P-1	P	10	3	30	50	LR				1+	Rb/Stlhd 75-127			2				2	
								R-3	CA	21.3	4.6	25	50	LR				2+	Rb/Stlhd 127-200	3	10	8	2			23	
																		Res	Rainbow >200	1						1	
																		0+	Chinook <127								
																		1+	Chinook >127								
																			Cutthroat 75-305								
																			Cutthroat >305								
																			Bullrout (all sizes)								
																			Brooktrout "								
																			Whitefish "								
																			other								
4	below fork of Jersey Cr.	T25N R8E SEC30 SESW	8/3/93		4.5			R-1	RI	36	2.3	20	30	SR	R-1	s.cobble	s.cobble										net was forgotten, fish were shocked and counted
								P-1	P	4.3	2.3	35	50	SR				0+	trout<75							5	with sizes estimated, based on snorkeling size classes.
								G-1	R	42.5	2.8	25	35	SR				1+	Rb/Stlhd 75-127							8	approximately half of the fish were taken from the water
																		2+	Rb/Stlhd 127-200							8	for positive species identification
																		Res	Rainbow >200								
																		0+	Chinook <127								
																		1+	Chinook >127								
																			Cutthroat 75-305								
																			Cutthroat >305								
																			Bullrout (all sizes)								
																			Brooktrout "								
																			Whitefish "								
																			other								
5	North Fork of Jersey Cr.	T25N R8E SEC30 SESW	8/3/93		7.4			G-1	P	98.3	1.8	10	30	SR	G-1	vc.gravel	c.gravel										stream was too small to break habitat units out, the
								P-1	P	4.5	2.1	25	45	SR				0+	trout<75							9	reach was all glide or glide pool with the one plunge
																		1+	Rb/Stlhd 75-127							9	pool at the end
																		2+	Rb/Stlhd 127-200							6	
																		Res	Rainbow >200								fish sizes were estimated the same way as reach 4
																		0+	Chinook <127								
																		1+	Chinook >127								
																			Cutthroat 75-305								
																			Cutthroat >305								
																			Bullrout (all sizes)								
																			Brooktrout "								
																			Whitefish "								
																			other								

3 age classes including YOY

5-2-2000

Personal communications: J.P. Mays, USFS, Nez Perce NF
Elk City/Red River Ranger District fish biologist

Crooked Creek: info within the last 5 years

Anadramous barrier 800 meters below mouth of Big Creek

Above barrier:	rbt with fish and game stocking maybe within 2 years ago Lots of rbt's Spawning and rearing of rbt in this area
below barrier	steel head, bulltrout, chinook, cutthroat All spawning and rearing
Lake Creek	steel head, bulltrout, cutthroat All spawning and rearing

Big Creek data is from 1990 and 1992 thru 1998

Rbt and rbt x cutt crosses (hybrids)
spawning and early rearing

Rhett Creek data from within the last 5 years

steel head, bull trout, cutthroat, juvenile chinook

spawning and rearing of steel head and cutthroat
rearing bulltrout and chinook

Jersey Creek info within last 5 years

cutthroat and steel head juveniles

spawning and rearing of cutthroat
rearing of steel head

Little Mallard: total fish migration barrier just above mouth. Above barrier the stream is fish less.

Below barrier, rearing steel head and incidental other salmonids

Little Mallard Creek

Division of Environmental Quality Fish Data Sheet

Field Information - Shaded areas must be completed before submittal of sample

DEQ Project Code	82-91004P00-BRP-4010				
Name of Water Body	Little Mallard Creek			Site ID Nº:	97NCIROA17
Location Description: permanent Landmarks	Approx. 5 miles down F.S. Road 9505				
Station or subsample Nº:	County:	Township	Range:	Section:	Quarter:
All habitats	Idaho	26N	9E	29	SE, NW, NE
Elevation:	Collector(s) First (or initial) & Last Names(s):				Sample Method:
1700m	R. Weldert, S. Patrow, E. Myers				Electroshock
Collection date (YY/MM/DD)	Reach Length:			Avg. Reach Width:	
970717	132m			5m	
Field Taxonomist:	Temperature:			Conductivity:	
R. Weldert	9.5°C			19uS	

Identifying Lab Information:

Lab Name:	Date Into Lab:	Date Reported:
Taxonomist (First Initial & Last Name):		Remarks:

Taxa Vouchered: No fish found

Anomalies Noted:

Equipment Settings:

Species Stocked in last 5 years (note year)

Field Comments:

Stream Name: Little Mallard Creek Site ID Nº: 97NCIROA17 Date: 97/07/14

IDHW - Division of Environmental Quality
FISH DATA SHEET

Field Information - Shaded areas must be completed before submittal of sample

DEQ Project Code	
Name of Water Body: Little Mallard Creek	Site ID No.
Location Description (Permanent Landmarks): 10 m Above Rd at Whitewater	
Station and/or Subsample No.: 1	County: Idaho
Township: 25N	Range: 7E
Section: 12	Quarter: NW NW
Elevation (ft or m)	Collector(s) First (or initial) & Last Name(s): USFS
Sample Method	
Collection Date (YY/MM/DD): 93/07/22	

Receiving Lab Information

Lab Name	Date into Lab	Sent Out	Sorted	Lab's Sample Number

Identifying Lab Information

Lab Name	Date into Lab	Date Reported	IDHW Central Lab Log No.

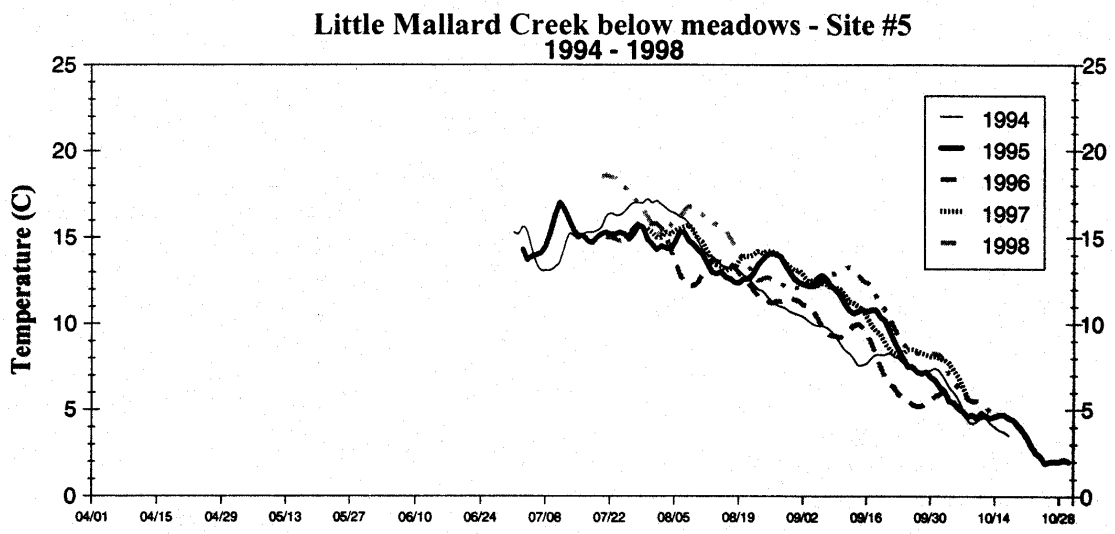
Taxonomist (First Initial & Last Name)	Remarks:

4 other Reaches were also shocked which resulted in No Fish due to a fish passage barrier located .5 mi upstream from the mouth. No fish were located above this barrier.

Little Mallard Creek

Two sites were monitored in Little Mallard Creek from 1994 - 1998. The most upstream site is located below the headwater meadows area (site 5). The second site is located 80 meters from the mouth (site 6). A fish barrier is present at approximately 1,100 meters from the mouth. Little Mallard Creek at most summer flows is not accessible to juvenile chinook for rearing, due to the 31% gradient of the alluvial fan. It does provide rearing at the mixing zone confluence with the Salmon River.

Graph 15

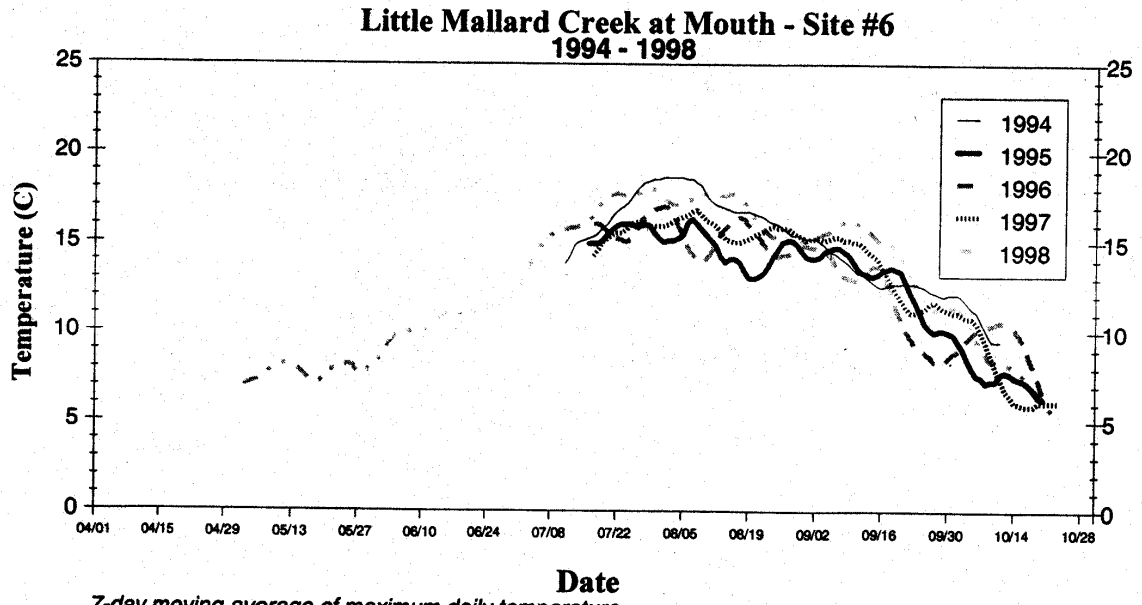


7-day moving average of maximum daily temperature

Table 21 Little Mallard Creek below Meadows (Site 5)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Maximum Temp. (C)
1994	6/25-10/17	48	19	18.0
1995	6/27-10/30	49	19	16.9
1996	7/15-10/3	28	6	16.7
1997	7/24-10/8	32	7	17.0
1998	7/14-10/14	39	20	19.3

Graph 16



7-day moving average of maximum daily temperature

Table 22 Little Mallard Creek at the Mouth (Site 6)

Year	Deployment Dates	Days > 13 C	Days > 16 C	Maximum Temp. (C)
1994	7/5-10/11	65	36	19.1
1995	7/10-10/20	63	15	17.3
1996	7/11-10/20	60	20	17.3
1997	7/11-10/23	65	18	17.8
1998	4/27-10/22	83	39	18.5

5-2-2000

Personal communications: J.P. Mays, USFS, Nez Perce NF
Elk City/Red River Ranger District fish biologist

Crooked Creek: info within the last 5 years

Anadramous barrier 800 meters below mouth of Big Creek

Above barrier:	rbt with fish and game stocking maybe within 2 years ago Lots of rbt's Spawning and rearing of rbt in this area
below barrier	steel head, bulltrout, chinook, cutthroat All spawning and rearing
Lake Creek	steel head, bulltrout, cutthroat All spawning and rearing

Big Creek data is from 1990 and 1992 thru 1998

Rbt and rbt x cutt crosses (hybrids)
spawning and early rearing

Rhett Creek data from within the last 5 years

steel head, bull trout, cutthroat, juvenile chinook

spawning and rearing of steel head and cutthroat
rearing bulltrout and chinook

Jersey Creek info within last 5 years

cutthroat and steel head juveniles

spawning and rearing of cutthroat
rearing of steel head

Little Mallard: total fish migration barrier just above mouth. Above barrier the stream is fish less.

Below barrier, rearing steel head and incidental other salmonids

Noble Creek

1997SLEWC013 DEQ FISH DATA ENTRY FORM

Site ID: | Water body: Noble Creek | Date: 9/07/12

DEQ Fish Collection Record (pass 1 of 1, effort 402 seconds)

T. Lngth. (mm)	Taxa code/ID confidence						
	111/A	114/C	178/A				
10-19							
20-29							
30-39							
40-49							
50-59			(1) 1534				
60-69		(1)					
70-79							
80-89							
90-99		(1)					
100-109							
110-119		(2)					
120-129	(1) V 122	(1)					
130-139		(3)					
140-149							
150-[illegible]							
160-169							
170-179							
180-189							
190-199							
200-209							
210-219							
220-229							
230-239							
240-249							
250-259							
260-269							
270-279							
280-289							
290-299							
300-309							
310-319							
320-329							
330-339							
340-349							
350-359							
360-369							
370-379							
380-389							
390-399							
400-409							
410-419							
420-429							
430-439							
440-449							
Total	(2)	(8)	(1)				

Corn Creek
Bear Basin Creek
Cramer Creek

Appendix F: The Idaho Division of Environmental Quality Water Body Assessment Form

Water Body Initialization				
Water Body Name **Bear Basin Creek**				
Upstream Limit **Headwater**		Downstream Limit **Mouth**		
WQ Standard		PNRS		
EPA River Reach #		HUC **17060207**		
Beneficial Uses				
	Designated Use	Existing Use	Attainable Use	Support Status (circle correct)
XCold/□Warm Water Biota		**X**		**FS**
Salmonid Spawning				FS, NFS, NA
Primary Contact Recreation				FS, NFS, NA
Secondary Contact Recreation	**X**			**FS**
Domestic Water Supply				FS, NFS, NA
Agricultural Water Supply				FS, NFS, NA
Industrial Water Supply	X			FS
Wildlife Habitat	X			FS
Aesthetics	X			FS
Criteria Exceedances (See cover letter for explanation of abbreviations)				
No data				
Assessment Caveats (See cover letter for explanation of abbreviations)				
96EIROZ099: NR ecoregion; MBI 3.59; HI 99; 2.1 cfs.				
Assessor Information				
Name: **Chris Mebane**			C Mebane 4/23/97 Signature	
Affiliation: **Division of Environmental Quality Idaho Falls Regional Office 900 N. Skyline, Suite B Idaho Falls, ID 83402**				

Appendix F: The Idaho Division of Environmental Quality Water Body Assessment Form

Water Body Initialization				
Water Body Name **Corn Creek**				
Upstream Limit **Headwaters**		Downstream Limit **Mouth**		
WQ Standard		PNRS		
EPA River Reach #		HUC **17060207**		
Beneficial Uses				
	Designated Use	Existing Use	Attainable Use	Support Status (circle correct)
XCold/□Warm Water Biota		**X**		**FS**
Salmonid Spawning				FS, NFS, NA
Primary Contact Recreation	**X**			**FS**
Secondary Contact Recreation				FS, NFS, NA
Domestic Water Supply				FS, NFS, NA
Agricultural Water Supply				FS, NFS, NA
Industrial Water Supply	X			FS
Wildlife Habitat	X			FS
Aesthetics	X			FS
Criteria Exceedances (See cover letter for explanation of abbreviations)				
No data				
Assessment Caveats (See cover letter for explanation of abbreviations)				
96EIROZ098: NR ecoregion; HI 111; MBI 4.98; 5.8 cfs.				
Assessor Information				
Name: **Chris Mebane**			C Mebane 4/23/97 Signature	
Affiliation: **Division of Environmental Quality Idaho Falls Regional Office 900 N. Skyline, Suite B Idaho Falls, ID 83402**				

Appendix F: The Idaho Division of Environmental Quality Water Body Assessment Form

Water Body Initialization				
Water Body Name **Cramer Creek**				
Upstream Limit **Headwater**		Downstream Limit **Mouth**		
WQ Standard		PNRS		
EPA River Reach #		HUC **17060207**		
Beneficial Uses				
	Designated Use	Existing Use	Attainable Use	Support Status (circle correct)
XCold/□Warm Water Biota		X		NV
Salmonid Spawning				FS, NFS, NA
Primary Contact Recreation				FS, NFS, NA
Secondary Contact Recreation	X			NA
Domestic Water Supply				FS, NFS, NA
Agricultural Water Supply				FS, NFS, NA
Industrial Water Supply	X			FS
Wildlife Habitat	X			FS
Aesthetics	X			FS
Criteria Exceedances (See cover letter for explanation of abbreviations)				
No data				
Assessment Caveats (See cover letter for explanation of abbreviations)				
96EIROZ100: NR ecoregion; MBI 3.00; HI 75; 0.6 cfs. No macroinvertebrate cold water indicators collected.				
Assessor Information				
Name: **Chris Mebane**				
Affiliation: **Division of Environmental Quality Idaho Falls Regional Office 900 N. Skyline, Suite B Idaho Falls, ID 83402**				4/14/97 Signature

Appendix 5

Air Temperature Data

30 Year Averages (1961 – 1990) of Daily Air Temperatures at Dixie, Idaho (Station #102575) for the Time Period Between July 1st and September 30th.

NOAA Western Regional Climate Center *www.wrcc.dri.edu*

Julian Day	Ave. Max. Air Temp. (°F)	Ave. Min. Air Temp. (°F)	Julian Day	Ave. Max. Air Temp. (°F)	Ave. Min. Air Temp. (°F)
183 (July 1)	71.1	36.4	229	75.9	35.4
184	71.4	36.5	230	75.5	35.3
185	71.7	36.5	231	75.2	35.1
186	71.9	36.5	232	74.9	34.9
187	72.2	36.6	233	74.5	34.7
188	72.5	36.6	234	74.2	34.4
189	72.8	36.7	235	73.9	34.3
190	73.1	36.7	236	73.7	34.2
191	73.4	36.7	237	73.4	34.0
192	73.7	36.7	238	73.1	33.8
193	74.0	36.7	239	72.7	33.5
194	74.2	36.7	240	72.4	33.3
195	74.6	36.8	241	72.0	33.1
196	74.9	36.9	242	71.6	32.8
197	75.3	37.0	243	71.2	32.5
198	75.5	37.1	244	70.8	32.2
199	75.8	37.1	245 (Sep 1)	70.4	32.0
200	76.0	37.2	246	70.0	31.8
201	76.3	37.2	247	69.7	31.5
202	76.4	37.2	248	69.4	31.2
203	76.6	37.1	249	69.1	31.0
204	76.8	37.2	250	68.6	30.8
205	77.0	37.1	251	68.1	30.6
206	77.1	37.0	252	67.7	30.3
207	77.3	36.9	253	67.4	30.1
208	77.5	36.9	254	67.1	29.9
209	77.7	36.9	255	66.8	29.7
210	78.0	36.9	256	66.5	29.5
211	78.1	36.9	257	66.2	29.4
212	78.2	36.9	258	65.8	29.2
213	78.2	37.0	259	65.5	29.0
214 (Aug 1)	78.3	36.9	260	65.4	28.8
215	78.4	36.9	261	65.1	28.6
216	78.3	36.8	262	64.8	28.5
217	78.2	36.7	263	64.4	28.3
218	78.1	36.6	264	63.9	28.1
219	77.9	36.6	265	63.4	27.8
220	77.7	36.5	266	63.0	27.5
221	77.5	36.4	267	62.6	27.2
222	77.4	36.4	268	62.1	27.0
223	77.2	36.3	269	61.7	26.8
224	77.0	36.2	270	61.2	26.6
225	76.7	36.0	271	60.9	26.4
226	76.5	35.8	272	60.6	26.3
227	76.2	35.7	273	60.3	26.2
228	76.0	35.5	274 (Sep 30)	59.9	26.0

Monthly Average Air Temperatures at Dixie, Idaho (Station #102575) for the Period of Record: 6/18/1952 to 7/31/2000.

NOAA Western Regional Climate Center *www.wrcc.dri.edu*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Ave Max Air Temperature (^{o}F)	30.6	35.6	39.9	46.7	56.6	65.9	75.9	75.8	66.7	54.0	38.3	31.2	51.4
Ave Min Air Temperature (^{o}F)	4.5	7.3	12.6	21.0	28.6	34.8	36.8	35.1	28.9	22.7	14.3	5.6	21.0
Ave Total Precipitation (in)	3.62	2.63	2.67	2.24	2.44	2.55	1.12	1.32	1.38	1.86	3.20	3.55	28.57
Ave Total Snowfall (in)	42.9	28.5	27.1	15.7	5.2	0.5	0.0	0.0	0.9	5.3	28.2	40.8	195.2
Ave Snow Depth (in)	36	42	39	24	4	0	0	0	0	0	6	21	14